INSTRUCTION MANUAL

BU: EPBP – GPG: DIN Rail Products Devices for the permanent control of insulation on 24 V supply lines for medical locations

SELVTESTER-24

More information than that reported in this manual can be found at the below reported link:

https://new.abb.com/low-voltage/products/system-pro-m/abb-h-plus-line

General

The SELVTESTER-24 is a device which allows the insulation control towards earth of the insulated 24 V AC/DC supply network of medical practice places (installations with insulated neutral IT-M).

These devices measure the potential variation of the two polarity of the network with reference to the round, to signalling when the insulation go down under the fixed threshold. The output signal can be connected to the specific signalling remote panel type QSD-DIG-230/24 to be installed in rooms supplied by the line under control

On the front panel are present two LEDs to signal the low insulation alarm, the test push-button and the LED of active device. In the line in DC, the two alarm LEDs indicate which line polarity has the low insulation. The micro-switch defines the threshold trip.

Code	Model	Voltage [V]	Frequency [Hz]
2CSM211000R1511	SELVTESTER-24	24	50-60

Accessories

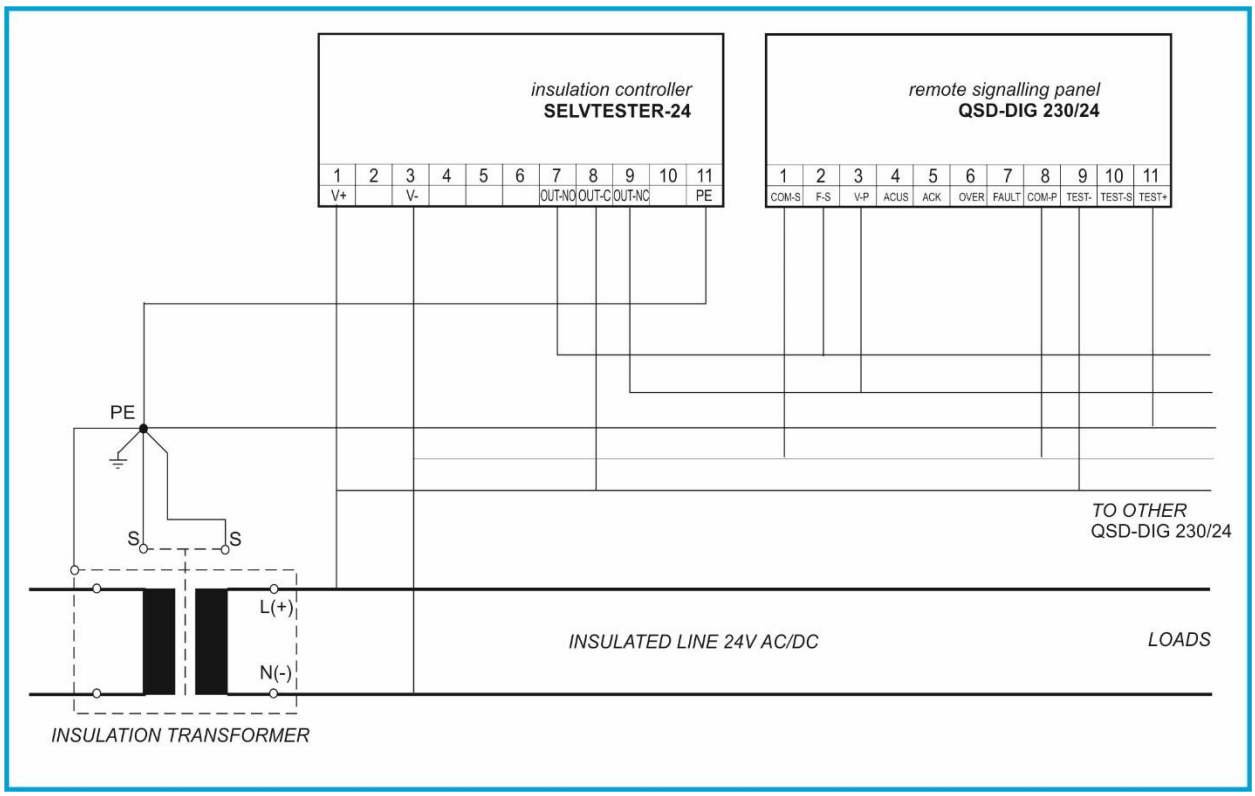
Remote flush-mounted signal panel (universal box E503) type **QSD-DIG 230/24.**

Installation

The installation must be carried out “in absence of voltage” by qualified and authorized personnel only. Before installing, make sure that the instrument has not suffered any damage due to transport. It has to be verified that the supply voltage is compatible with the product’s defined supply voltage.

The modular instrument (6 modules 17,50mm) is fitted of sealable transparent cover, to be mounted on DIN rail mounting 35mm.
When there are all the connections of the device, it's possible to supply the voltage to the network and the green LED ON will turn on.

Wiring diagram



Wiring diagram description

Auxiliary power supply and insulation control
Terminals 1-3

The auxiliary power supply must be the same of the network voltage to control.

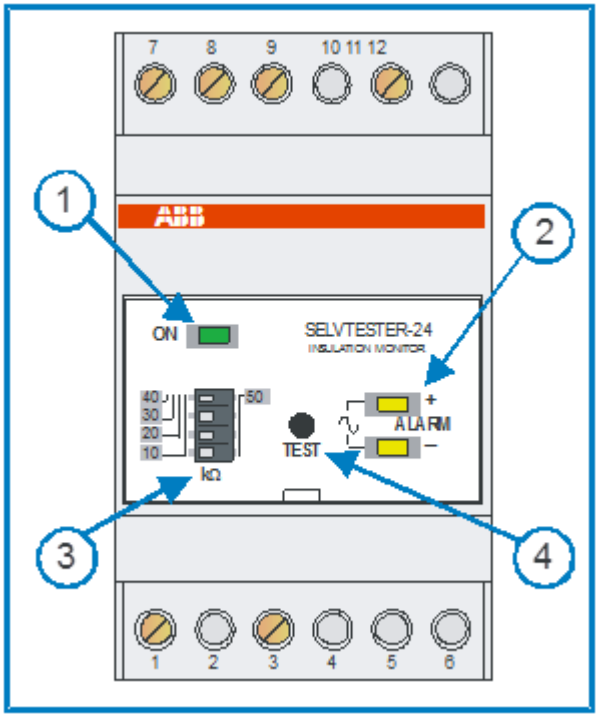
Connection to the equipotential node
Terminal 11

This connection indicated as (PE) is necessary to have a reference for the measurements.

Connection to remote panel QSD-DIG-230/24
Terminals 7-8-9

The connection is necessary for the acoustic and visual remote signalling. There is the possibility of stopping this signalling by pressing the dedicated button on the panel itself.

Indications and buttons description



1. Green ON LED to indicate the device is powered on

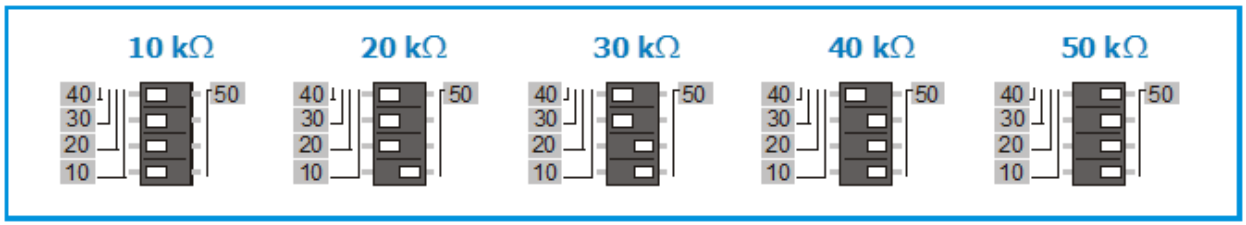
2. Yellow ALARM LEDs to signal low insulation condition. The two LEDs will turn on if the network under control is in AC, while in DC only the LED relative to the polarity under the tripping threshold will turn on

3. Micro-switches to select the tripping threshold

4. TEST push-button to test the correct functioning of the instrument

Key functions and settings

Micro-switches setting

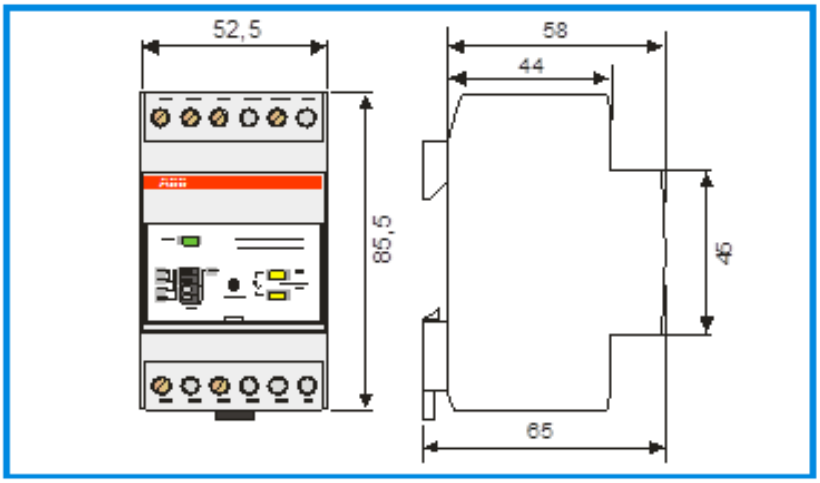


The frontal micro-switches on the device allow to set the tripping threshold (range 10÷50 kΩ) as shown in the picture above.

Operation of the device

The instrument in the normal condition, with insulation value higher than the set value has the green LED on. Pressing the TEST button the LED ALARM will be activated and the alarm signalling will be present on all remote signalling panels. The reset is automatic after the release of the button.
If the SELVTESTER-24 is connected to and AC system, in case of low insulation, the alarm signalling will be activated: the two ALARM LED will be on. If the SELVTESTER-24 is connected to a DC system, in case of low insulation on the ‘’+’’ polarity (polarity connected to the terminal 1) one ALARM LED (+) will be activated and an alarm signaling sent to the remote panel while, if the low insulation is on ‘’-‘’ polarity (polarity connected to the terminal 3) another ALARM LED (-) will be activated and an alarm signaling sent to the remote panel. The alarm signalling will disappear automatically only when the insulation level become higher than the one set as threshold.
During the alarm condition in the QSD-DIG-230/24 signalling panels the yellow LED (FAULT condition) will be ON as the acoustic signalling. Only pressing the button on the panel it will be possible to turn the acoustic signaling OFF.

Overall dimensions



Technical features

Name	Description
Network voltage and auxiliary power supply	24 V 50-60 Hz AC/DC ± 20%
Device consumption	3 VA – 3 W
Measuring current	max 0.5 mA
Internal impendence	50 kΩ
Tripping threshold setting	selectable 10 ÷ 50 kΩ (4 levels using micro-switches)
Tripping delay	About 1 sec.
Signalling	led ON, led ALARM +, led ALARM -

Output	for max 2 remote panels QSD-DIG-230/24, max 24 V 1 A
Operating / storage temperature	-10 ÷ 60°C / -20 ÷ 70°C
Relative humidity	95 %
Insulation test	2.5 kV 60 sec. / 4 kV pul. 1.2/50µs
Mounting position	any
Connection type	Using screw terminals – cable cross-section max 4 mm^2
Protection degree	IP 40 frontal with cover – IP 20 enclosure
Mounting type	DIN rail 52.2 mm / 3 modules 17.5 mm each
Weight	about 220 g
Reference standards	CEI-EN 61010-1 - CEI 64.8/7-710 / IEC 60364-7-710 CEI-EN 61326-1

ABB group
Electrification
Products Division
Business Unit
Building Products

abb.com/lowvoltage
abb.com/buildings

2CSM444017D0202

Contact the technical assistance or refer to specific document for application don't described in this manual.

Remark

In consideration of the evolution of the products and standards, the company reserves the right to modify at any time the features of the product described in this literature, therefore we recommend to always verify them beforehand. The manufacturer's liability for damages resulting from product defects "may be reduced or deleted (...) when the damage is attributable jointly to a product defect and to the negligence of the injured party or to a third party for whom the injured one is responsible" (Article 8, 85/374/CEE)